# VIRGINIA WILDLIFE

JANUARY 1984 ONE DOLLAR

# VIRGINIA WILDLIFE

*Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources*

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Commission of Game and Inland Fisheries

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# Cover

Cardinals by Bob Price, Portsmouth. The cardinal, *Cardinalis cardinalis*, is not only a beloved visitor to many back yards in Virginia, it is the state bird and the symbol used on the Commission's Non-Game Program logo. The Non-Game Program is highlighted in this issue (see articles beginning on page 6, page 9, page 13 and page 23).

*Back cover:* Be sure to remember wildlife when you complete your tax forms this year. To learn more about the Non-Game Program and how you can help, write to Non-Game, P.O. Box 11104, Richmond, Virginia 23230-1104. Illustration by Dick Bernard, Richmond.

story by Bruce Ingram
photos by Paul C. Calhoun

# January Pike

They fight just as hard in the winter as in summer, so it's worth your while to learn their cold weather habits.

*(Preceding page) Another trophy falls to a red-and-white spoon; (above) Fast water can be productive even in winter, if the temperature is right; (right) This fish swallowed the lure on the strike; barbless lures allowed its safe release.*

The month was January, the air was crisp, the temperature was near freezing, and I had a two-foot-long chain pickerel on my line. That may sound improbable, but *Esox niger* is one of the few Virginia game fish that feeds actively year-round.

That pike was just one of six that I caught from Craig County's Craigs Creek on a miserable January day this winter. By slightly altering your fishing strategies, you can relish battling this species from December through March.

One of the most important factors in winter fishing is

the barometric pressure. If it is falling, stay home by the fire. A drop in atmospheric pressure tends to cause pickerel to stop feeding. This is true no matter what the other weather conditions are. The weather bureau gives frequent updates on the barometric pressure readings.

Strangely enough, such phenomena as cloud cover and temperature do not seem to affect feeding habits. As long as the barometer is steady or rising, the fish do not appear to care whether the sky is clear or overcast. Of course, as in the spring, if the day is extremely windy all efforts will probably be futile. If you can tolerate being on a stream in freezing weather, you will find that old duckbill will also be there.

The time of day is similarly important. In the summer, chain pickerel, as do other species, feed most actively during the early morning and late evening. But the peak winter fishing hours appear to be from noon to three p.m. Apparently, even the hearty pickerel is a little sluggish the morning after a cold winter night.

Pike generally stop feeding as late afternoon approaches. When the shadows begin to lengthen over the creek and the temperature starts to fall, it is time to depart for home even if you are a true diehard angler. A recent late afternoon expedition by this writer ended with my catching only a cold.

Lures are another important consideration in the winter months. I courted the aforementioned three-pound lunker with an oversized red-and-white Daredevil spoon. Though pickerel are out and about feeding, they tend to need just a slightly larger enticement to convince them to strike.

On winter excursions, I retrieve my spoons much more slowly along with using the bigger models. The larger lures emit stronger vibrations over a greater distance. Somehow, this helps persuade a balky pickerel to strike. Occasionally, I even cease reeling in the spoon altogether and allow it to briefly rest on the bottom. This stop-and-go technique arouses the pickerel's interest. The pike's reflex actions then take over and the fish will often charge the lure.

"The larger lures emit stronger vibrations over a greater distance. Somehow, this helps persuade a balky pickerel to strike."

Mepps Aglia spinners are as effective during the winter as they are in the summer. Like the Daredevle, the Mepps needs to be brought in more slowly than in the summertime. Reel in the spinner slowly enough so that it imitates a minnow numbed by the icy waters. If a pike follows but does not strike, accelerate the retrieve or allow the lure to descend with a fluttering motion. The effect on a pike is similar to that of a red cape being waved in front of a bull.

Pickerel haunt the same general places they do in summer: undercut banks, sumberged logs and huge rocks. However, in the winter, *Esox niger* stations himself deeper and is not prone to rising to the surface to feed. Some lures that seduce pickerel in the summer are ineffective in the winter. Surface lures such as poppers rarely hold any interest for the winter pickerel.

There does seem to be a reason for the pike's lack of interest in surface lures. When the surface water temperature drops, as it often does in January, the fish tend to congregate on the bottom. This is especially true if you are fishing for pickerel in impoundments or in the deep holes of slow-moving streams. The pike's metabolic rate also decreases because of the colder water. Nevertheless, pickerel still feed more actively than, for example, wintering smallmouth bass. Again you must slightly change your fishing methods to catch pike.

To attract bottom-hugging pickerel, allow spinners and spoons to settle an extra second or two. This will insure that the lure reaches the fish. In addition to spinners and spoons, you can successfully use deep-running Rebels and plugs.

One characteristic of pickerel fishing never changes no matter what the season. The winter model fights just as ferociously as the summer version. Though pickerel hooked in January and February seldom catapult themselves into the air, they battle with the dogged determination that the species is known for. One particularly memorable January struggle involved a pike trying to escape beneath the banks of both sides of Craigs Creek. That individual next attempted to escape with my spinner under a sunken log. Finally, it came to rest near me, flaring its gill covers indignantly.

I would be remiss in my duties as a pickerel angler if I did not offer a few words of advice. During the winter or at any time, please be careful in the release of this species. I have seen pickerel disgorge partially digested minnows and even part of their digestive tract when they have been roughly handled.

Some fishermen prefer to hold pike by their gill covers when removing hooks. I cannot recommend this method because of possible damage to the fish's gills. Though the fish may look perfectly healthy when you release it, injury to the gill area can lead to infection and eventually death.

You can often release pickerel without touching them. Simply give the fish some slack line and it will throw the hook. If this procedure does not work, use needlenose pliers to dislodge any hooks. Pliers also prevent pickerel from clamping their sharp teeth on your fingers. As an added precaution, I have filed off the bars of all my hooks. This greatly facilitates their release.

Another way to avoid injuring pickerel or other gamefish is to refrain from using live bait. Obviously, minnows and salamanders are an effective and traditional means of catching pike. But all to frequently, a pike will swallow live bait too deeply and begin to bleed. When that happens, even needlenose pliers are of very little use. A bleeding or severely injured fish is not likely to survive and should not be released.

Finally, experience the joy of releasing all pike that are landed, especially those outsmarted in the late winter. Chain pickerel spawn in the early spring. Indiscriminate keeping of fish at that time can destroy an entire generation. Obviously, this is true of all species of fish, not just pike.

So when fall turns into winter, don't put away the fishing tackle. Give winter fishing a try and discover that the chain pickerel is truly a fish for all seasons. □

story by Susan Gilley
photos by Mel White

# Wildlife In The Classroom

## Project WILD teaches basic wildlife concepts through a school's established curriculum. The result? Informed, educated youngsters grow up to be good stewards of this precious resource.

"What did you learn in school today, dear little boy of mine?" So goes the opening line of an old folk song, and sometime this year, you may get an unusual answer from your dear little boy (or girl). He may have been a bear in school that day—a bear that couldn't find enough food because there were too many bears in the forest. . .a bear that died as a result.

Or your teenager may come home with a poem or sketches of a pillbug or a spider that she "was" for the day.

If you get responses like these from your school-age children, chances are they, like thousands of other Virginia students, are learning about wildlife through Project WILD, a new multi-disciplinary educational program for use from kindergarten all the way through the twelfth grade.

Last summer, the Virginia Commission of Game and Inland Fisheries and the Virginia Division of the Izaak Walton League of America became Associate State Sponsors of this program. These two organizations have cooperated in supporting environmental education (with emphasis on wildlife) since the 1940's. True to form, they are leading the way with Project WILD, the newest and perhaps best approach yet to teaching concepts about wildlife:

*Students at Donahoe Elementary School in Henrico County learned about wildlife cover, food chains, predator/prey relationships, and that animals "freeze" to avoid detection by their enemies through a Project WILD activity called "Quick Frozen Critters." Students donned yellow vests and represented foxes and hawks—the predators—while other students played squirrels or rabbits trying to gather food while avoiding capture by their predators.*

*(Photos counterclockwise from top left) "Rabbits" and "squirrels" move about their habitat looking for "food" (colored squares of paper). They head for "cover"—trees or brushpiles, for example—represented by hula hoops; inside the hula hoops, they are safe from the foxes and hawks. Squirrels and rabbits who avoided capture by their predators and gathered three squares of paper/food "survived." A student/squirrel gathers paper/food. Back in the classroom, students tell Susan Gilley what they learned about wildlife.*

Virginia was the first state east of the Rockies to "buy into" WILD. Since the Old Dominion's foray into this program, five other states have joined and still others are surveying the materials and considering participating.

The program was developed at a great expense by the Western Association of Fish and Wildlife Agencies and the Western Regional Environmental Education Council (WREEC): each organization is made up of representatives of the same 12 western states. There are presently 19 sponsoring states and five organizational sponsors of Project WILD. State sponsors are, for the most part, the state fish and wildlife agencies, as is the case in Virginia. Organizational sponsors so far include the American Humane Association, Canadian Wildlife Federation, Defenders of Wildlife, National Wildlife Federation and the Wildlife Society.

The roster of sponsors raises an interesting point about Project WILD: if you know anything about the organizations listed in the previous paragraph, you probably realize that their philosophies ragarding wildlife management principles and in particular, the practice of hunting, are not only different, they are in some cases in direct opposition to one another. The participation and support of such divergent organizations lends credence to Project WILD's contention that it takes a neutral position on the issue of hunting, in terms of moral beliefs as well as the philosophy of hunting as a valid wildlife management tool. The intent of Project WILD is to educate young people in sound biological principles which influence both animals and human beings, thereby allowing those young people to make their *own* decisions, supported by those principles. The organizational sponsors agree that the program is an excellent one for educators who teach about wildlife. Project WILD has also been endorsed by the National Council for the Social Studies and is consistent with the recommendations of the National Science Teachers Association.

"Project WILD was designed by and for teachers. It is not another 'subject' that a teacher must find a space for in the school day."

Project WILD differs from many previous efforts to get wildlife education into the schools in that it is not a "wildlife education unit" that must be fit into an already crowded curriculum. Instead, the Project WILD activities may be used in math, history, music, art, social studies, physical education and many of the areas outside the traditional science or biology framework. The students learn many physical, manual, mental and social skills while at the same time learning to understand important biological principles.

The development of Project WILD began about five years ago with the writing of a "curriculum framework," a general outline that put forth the concepts to be taught. It was from this outline that the activities were developed. Approximately 100 wildlife managers, educators, conservationists, industrial representatives, biologists and others participated in the writing and review of the framework. Later, teachers sat down at five writing workshops with the framework and wrote the activities. These were then tested and revised before being put into their present form. At this point, Virginia joined WILD and was chosen as one of the three states to field test the material. Five school systems in Virginia, as well as school systems in Colorado and Washington, tested the materials during the 1982-83 school year. During the following summer, the results were evaluated to determine if WILD taught what it was designed to teach. It does!

The materials consist of two activity guides, one for elementary teachers, the other for secondary teachers. Each guide contains 80 activities. Teachers in middle schools will find activities for those grades in both guides and can choose whichever guide best suits their needs. Regardless of the subject an individual teacher may teach, he or she will be able to find a Project WILD activity that can be incorporated into the lesson plan. Students of all grades and ages are naturally interested in animals; through the Project WILD activities, teachers can use this interest to teach math, art, social studies or language arts as well as science. Activities may involve role playing or physical activity, or they may require that the students do some research before completing the activity. Whatever the activity, however, WILD helps students learn "how" to think, not "what" to think as they move from awareness to action on issues concerning wildlife and other factors affecting their lives now and in the future.

Project WILD was designed by and for teachers. It is not another "subject" that a teacher must find a space for in the school day. Instead, WILD fits into the existing curriculum to teach lessons that teachers are already teaching. Teachers are able to adapt the activities to fit their own needs and those of the students. Each activity stands by itself, giving teachers all the necessary information for doing it. Teachers can choose to do only one activity or a whole series of activities that build on each other throughout the year. An extensive appendix helps teachers find activities that meet their own needs in teaching both subjects and skills.

Teachers, along with adults involved with children in 4-H, Scouts and other program, can obtain the Project WILD materials only after attending a six-hour teacher workshop. The workshop familiarizes the participants with the materials, ways of incorporating the material into the classroom, as well as giving the teachers some hands-on experience in doing the activities.

The workshop facilitators are volunteers from resource agencies and parks, as well as educators from around the state. The facilitators were trained at one of two leadership workshops last fall. Administrators wishing to schedule a workshop on an upcoming in-service day or teachers interested in attending a workshop can contact: Project WILD, Virginia Game Commission, P.O. Box 11104, Richmond, Virginia 23230 or call 804/257-1000. All workshop participants will receive free of charge a Project WILD activity guide, a folder of reprints from *Virginia Wildlife* magazine and other resources to help teachers and students become more aware of Virginia's wildlife resource.

The Project WILD materials and workshops are part of the public outreach section of the Non-Game Wildlife and Endangered Species Program. These funds come from contributions made by Virginia taxpayers on line 20A on state form 760 or on line 10A of form 760S. □

F.N. Satterlee

*A short drive and the James River are all that stand between the teeming urban life of Newport News and a place called Ragged Island. This brackish marsh and environs are teeming with life, too—the wild kind.*

Dinny Slaughter

# Watchable Wildlife

*by Karen Terwilliger*

A place to rediscover the solitude and wildness of nature, a mere 10-minute drive from from bustling Tidewater? As unlikely as it seems, directly across the James River from the Newport News Shipyard lies one of the largest undisturbed marshes in the Tidewater area. Here, the sights and sounds of the city melt into the swaying saltmarsh cordgrass and wind whispering through the pines. Stroll down the nature trail, stopping to relax and learn about the area's ecology and history from the trail signs; it will take you farther and farther from the tense activity of the city.

Welcome to Ragged Island!

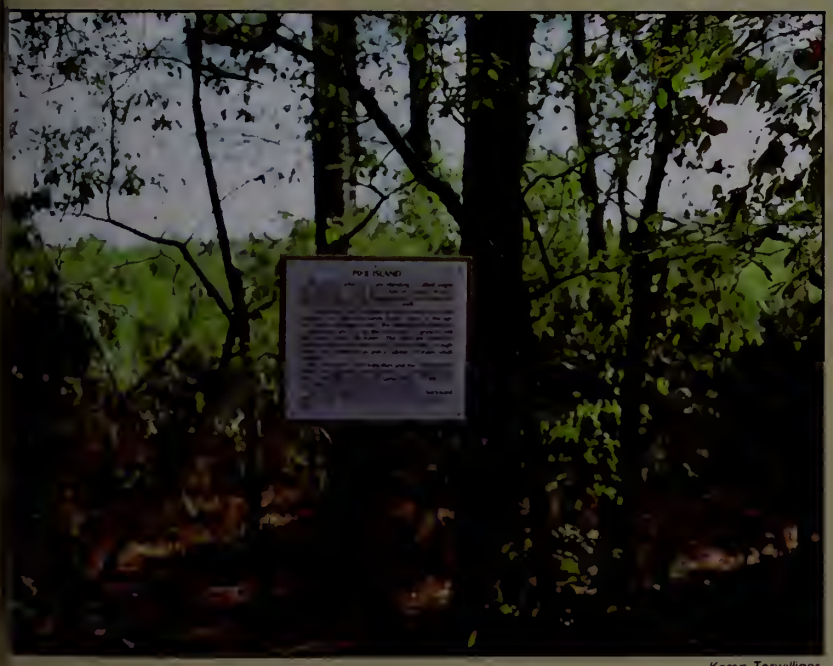
Karen Terwilliger

Karen Terwilliger

Karen Terwilliger

*(Previous page) The infrared aerial view of Ragged Island shows the bridge which spans the James from the WMA to Newport News. The snowy egret is one of the "watchable" residents of Ragged Island, as is the brown thrasher (photo this page, above). An important interpretive feature of the watchable wildlife area is the boardwalk (top right) which allows visitors easy access across one section of the Area. (Bottom right) Another resident, the hooded warbler.*

Michael Gadomski



Karen Terwilliger

Gary Gaston

*(Left) Interpretive signs allow a visitor to tour the area at his or her own pace. (Top) the yellowlegs and (above) clapper rail are just two of the birds you may see at Ragged Island.*

Ragged Island is a 1500-acre brackish marsh, purchased in 1977-78 and managed by the Virginia Commission of Game and Inland Fisheries as one of its 33 Wildlife Management Areas (WMA's) across the state. Each WMA's resources are managed for maximum benefit to wildlife and people.

What makes Ragged Island different from the other WMA's in Virginia? Monies from the Non-Game and Endangered Species Program have funded development to increase public awareness and appreciation as well as the utilization of the area's wildlife resources. These developments, designed to bring people closer to wildlife of the area, are called "watchable wildlife areas" (WWA).

This WWA portion represents a small fraction of the total WMA, but it encompasses all the different habitats and encourages access to the remainder of the WMA. Since construction began last spring, a gravelled parking lot has been constructed to accomodate vehicles up to the size of a school bus. A gravelled trail begins from the parking lot and winds approximately one-third of a mile though a narrow finger of pine forest and ends at Cooper Creek. Here, a footbridge and canoe access point allow vistiors unlimited access and invites you to explore the WMA.

Also at Cooper Creek is the entrance to the boardwalk which follows the bends of the tidal creek for about a quarter-mile across the marsh to the observation platform on the shoreline of the James River.

A visitor to Ragged Island can expect to see different wildlife species during different seasons of the year. Although the chill of winter limits wildlife activity, this is an excellent time to observe the area's animal life. With most of the leaves fallen, wildlife becomes more visible. As food becomes scarce during the winter months, wildlife must search harder for available food. They must make each move count and this is when their movements and signs become apparent, especially after a snow.

Along the pine trail, the fruits, nuts and berries of the trees and shrubs of the forest provide a stable winter diet for the forest dwellers. Here, many bird species, including sparrows, towhees, cardinals, chickadees, nuthatches and kinglets can be seen and heard flitting from bush to vine to tree, gleaning what remains of the fall mast. The holly bushes, bayberry, greenbrier, persimmon, hackberry, oak and pine provide the bird and mammal species of Ragged Island winter sustenance. Mammal tracks can be seen in the moist soil or snow along the trail. The tiny trails of the mice and voles will hardly be as visible as those of the gray squirrel, opossum, and raccoon which also rely on the mast for survival through the winter. Rabbit and deer tracks and signs are evidenced by the browsed twigs, forbs and vines along the trail. Greenbrier always seems to be a winter favorite as shown by the scares of these herbivores. All these signs are there in the pine forest to be discovered by the attentive ear and watchful eye. Imagine the different species that appear in the other seasons of the year in this forest!

The winter also brings an apparent stillness to the vast expanses of Ragged Island's marsh (its most extensive habitat by far). Little does one suspect the flurry of small mammal and bird activity in such seemingly stark environs. Meadow voles, rice and cotton rats all scurry from their winter abodes, suspended high in the marsh grass to escape tidal waters and freezes, through the surrounding marsh to feed on the plants and seeds of the marsh grasses.

The clapper rail or "marsh hen" is also a year-round resident which forages the marsh for periwinkle snails and other shelled animals. Sparrows can be seen flitting from marsh grass to shrubs seeking the nourishing seeds of the marsh plants. The raptors of Ragged Island can be seen searching the marsh for their prey. The two most commonly seen are the marsh hawk and the great horned owl.

All the other wildlife species have moved further south to spend the winter, or they hibernate. Imagine the flood of wildlife as over 100 species of birds return to their breeding ground in the spring!

And then, as your tour through the marsh brings you to the shoreline of the James River, you will witness another wildlife phenomenon—the flocks of overwintering waterfowl so important to the Chesapeake Bay and its tidal creeks. Wintering waterfowl raft in large concentrations along the James River. Canvasback and scaup, two of the most common divers observed from the observation platform, don't seem to be disturbed by the bridge and shipyard traffic. Black duck and other dabblers also utilize the small ponds and creeks of Ragged Island.

So Ragged Island is very much alive during the winter and the attentive visitor has only to investigate the signs of its wildlife. Trail signs along the forest and marsh trails have been developed to point out some of the inhabitants of the area as well as its history and ecology. The Boy Scouts of America troop from Windsor has constructed osprey nesting platforms to be erected along the James River shoreline to provide suitable nesting sites on the WMA and allow visitors a glimpse at this beautiful, yet still threatened species. Canoe routes have been developed for the area and several access points secured. Entrance signs and pamphlets will provide the canoeist with a map and information about the area's routes. Trail signs will be installed in March to coincide with the warmer weather and a formal dedication.

A pamphlet has been designed for the area and is now available upon request from the agency's headquarters in Richmond. It provides the visitor a description and background of the area as well as a checklist to the wildlife there.

We hope that good publicity and high public visitation will help discourage vandalism on the area and help protect its resources for all to enjoy. Whether you reside locally or plan a visit to the many attractions of the Tidewater area, we hope you—the people who have made this area possible through your contributions to the Non-Game and Endangered Species Program—visit Ragged Island and enjoy its resources the year 'round. □

# Habitat

*A model "back yard" at the Game Commission's headquarters not only teaches you how to attract more wildlife to your property, it actually shows you what different plants look like in your yard.*

*by Sarah Bartenstein*

*illustrations by Jack Williams*

# HOME GROWN

You'd like to do something that will (a) attract song birds and maybe even some small mammals to your yard and (b) increase the value of your property. You've got a bird feeder, perhaps even a birdbath, but how about some plants to make it more inviting—for you, for the critters, and for a prospective buyer when you want to sell your house. Highbush blueberry is attractive, you learn from your research, and cedar waxwings love it. But before you sink all that time, effort and money into planting it, you want to know how it will look in a back yard.

Well, come see *our* back yard! If you've never been to the Game Commission's headquarters on Broad Street in Richmond—or you haven't been in the past year—you should know that things have changed a little.

That's because we used some of the donations you sent us for the Non-Game and Endangered Species Program to construct a "model" backyard habitat. Ours isn't in the back—it's in front, beside our office building, for everyone driving or walking down Broad Street to see. But just the same, we call it "Backyard on Broad," and our hope is

that you can use it to give you some ideas for your *own* back yard, ideas that are designed to attract wildlife to your yard. Everybody wins: wildlife find a habitat in a world that seems to have less of it every day, and you get the pleasure of seeing them close by.

Our backyard habitat is 150 feet by 30 feet and includes over 400 plants, featuring 32 species. It also has a self-filling birdbath, bird feeder, bluebird box, squirrel den box, martin house, gravelled walkway and a picnic table. While we chose the plants for their attractiveness to wildlife, we didn't actually seek to attract wildlife to Broad Street. Instead, we hope to show what these types of plants will look like in a planned habitat on your property, large

## *What should you plant?*

| PLANT SPECIES | FOOD | COVER | AESTHETICS | SONGBIRDS | DEER | SQUIRREL |
|---|---|---|---|---|---|---|
| Pyracantha | X | X | | X | | |
| Wild Grass Clumps | | X | X | X | | |
| Highbush Blueberry | X | | | X | X | X |
| Canadian Hemlock | X | X | X | X | | |
| Virginia Cedar | X | X | X | X | | |
| Honeysuckle | X | X | X | X | X | |
| Threespine Barberry* | | | X | | | |
| Autumn Olive | X | X | X | X | X | X |
| Blue Spiraea | X | | X | X | | |
| Lavendar | | | X | | | |
| Huckleberry | X | | X | X | X | X |
| Dwarf Nandina | | | X | | | |
| Pin Oak | X | X | | X | X | X |
| Willow Oak | X | X | | X | X | X |
| Sawtooth Oak | X | X | | X | X | X |
| Thyme Leafed Cotoneaster | X | X | X | | | |

*Emergency late winter food source

or small. Of course, a fringe benefit has been the presence of mourning doves, sparrows, purple finches and other birds. Away from the bustle of Broad Street, imagine what a plantation could attract in your rural or suburban setting—certainly a multitude of songbirds, and perhaps small mammals and even whitetail deer.

The habitat was designed to be maintenance-free and operational despite the weather (including a self-regulating, heated birdbath). A major project such as the birdbath with its float system (allowing a constant water level), heater to prevent the water's freezing, electrical outlet and water spigot may be more than the average homeowner cares to tackle. It does make an important point, however: water is one of the essential elements of wildlife habitat. Perhaps there's a pond or stream on your property; this will make it more attractive to wildlife . A birdbath—even a simple one—if maintained, will keep your feathered friends coming back.

The model was constructed by a local nursery—with a great deal of help from Jeffrey Curtis, the Game Commission's wildlife education coordinator. Jeff encourages homeowners, landowners, schools, groups and garden clubs to take advantage of this new facility. You can contact Jeff at the Richmond headquarters: Box 11104, Richmond, Virginia 23230-1104, 804/257-1000. Jeff has also put together a couple of brochures, one which shows the different plant species in the model habitat, and their locations. It also lists species which are important to wildlife. The other brochure shows you how to actually apply some of these concepts in your own yard. The former is called "Backyard on Broad, " the latter, "Your Own Wildlife Habitat." Write to the Education Divison at the address listed above (mark it to the attention of "Non-Game") to request either or both of these free publications. Then, come see us, and see what your Non-Game Tax Check-Off is doing for birds on Broad Street, for wildlife across Virginia, and for you. □

## *More plants*

| PLANT SPECIES | FOOD | COVER | AESTHETICS | SONGBIRDS | DEER | SQUIRREL |
|---|---|---|---|---|---|---|
| Inkberry Holly | X | | X | X | | |
| Filamentosa Yucca** | | X | X | | | |
| Cranberry Cotoneaster | X | | X | X | | |
| Foster Holly | X | X | X | X | | |
| Bayberry | X | X | X | X | | |
| Gumpo Azalea | | | X | | | |
| Floribunda Crabapple | X | X | X | X | X | |
| Daylilly/Daffodil Spicata liriope | | X | | | | |
| Blackhaw Viburnum | X | | X | X | | |
| Arrow-wood Viburnum | X | | X | X | | |
| Azalea | | | X | | | |
| Dogwood | X | X | X | X | X | X |
| Howard Holly | X | X | X | X | | |
| Shore Juniper | | | X | | | |
| Shadbush | X | X | X | X | | |

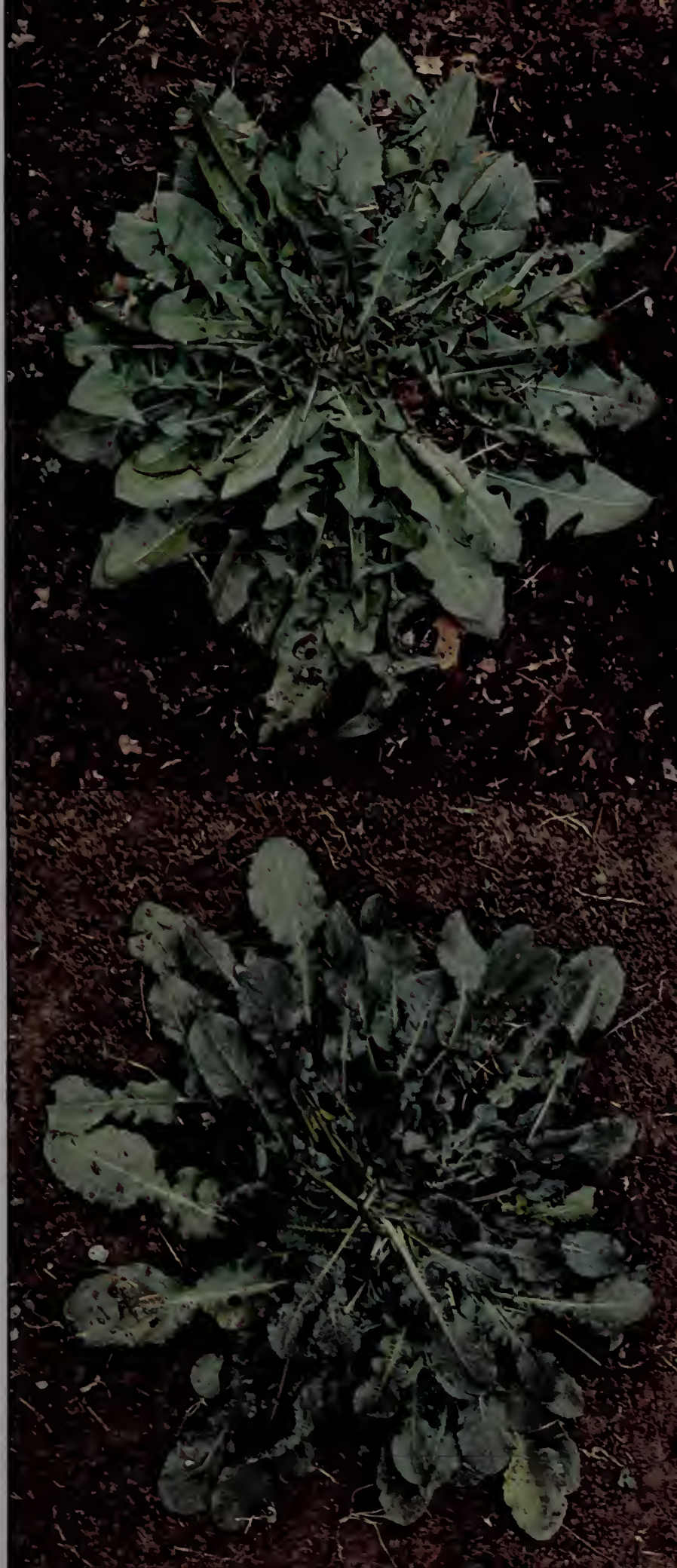
**An excellent plant for attracting butterflies

*story by Grete Dollitz*
*photos by Hans Dollitz*

# *In the Eye of the Beholder*

*You may not think of the ubiquitous, unwelcome weed as beautiful, but look again: these symmetrical rosettes can be the bright spots in a drab winter landscape.*

(Top right) Dandelion *(Taraxacum officinale);* (bottom) Dock *(Rumex crispus L.).*



Just about everyone interested in plants has been intrigued by an African violet's beautiful and symmetrical shape, the result of much tender loving care. If you have an eye for that kind of symmetry and can appreciate it even more when there is no work or effort connected with it, there are some shapely rosettes in your own backyard right now, or at least not very far from it.

All of these plants grow "unasked, unplanted, as a consequence unwanted." In short, they are weeds. And it is quite possible to enjoy these lovely rosettes while at the same time planning their eradication. Learning to recognize them will help with the latter.

The small-flowered bitter cress will start to grow even in January when winters are very mild. But more often its small, white flowers will appear in your lawn by mid-March. It grows rapidly and develops its seed pods while the weather is cool and it will be ready for you the first time you mow your lawn. Then it will scatter its seeds everywhere, for the small-flowered bitter cress is like money: the more you have, the more you will have. But mild days in winter are perfect cress-pulling days.

Is there anyone who does not recognize a dandelion? Its bright, cheery yellow would probably be appreciated more were it not so ubiquitous or so difficult to eradicate. It seems to be a fact of life that the green lawn lover seems always to live next door to the man who believes in *laissez-faire*. But dandelions have their useful side for they make a fine addition to early spring salads and a good wine and the very long tap root is an acceptable coffee substitute. When the ground is saturated, a firm and steady pull will get the roots out entirely.

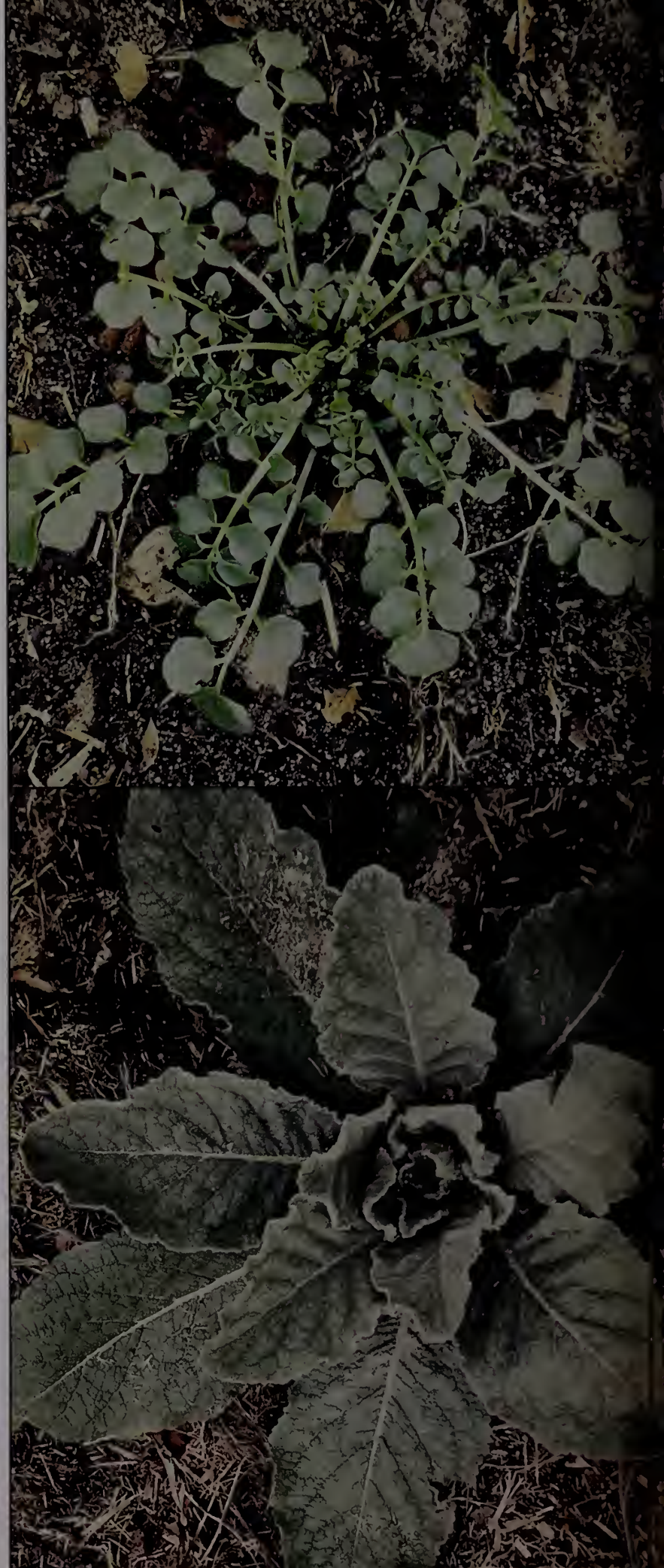
The fall dandelion, no part of which is edible, can be dug out easily for it is shallow-rooted. Its yellow flowers are born on long stems while those of the true dandelion bloom close to the ground. You might call the fall dandelion a "sociable" plant since many of them together tend to form sizeable clusters which crowd out everything else. A huge bare spot will be your reward for getting rid of the clumps.

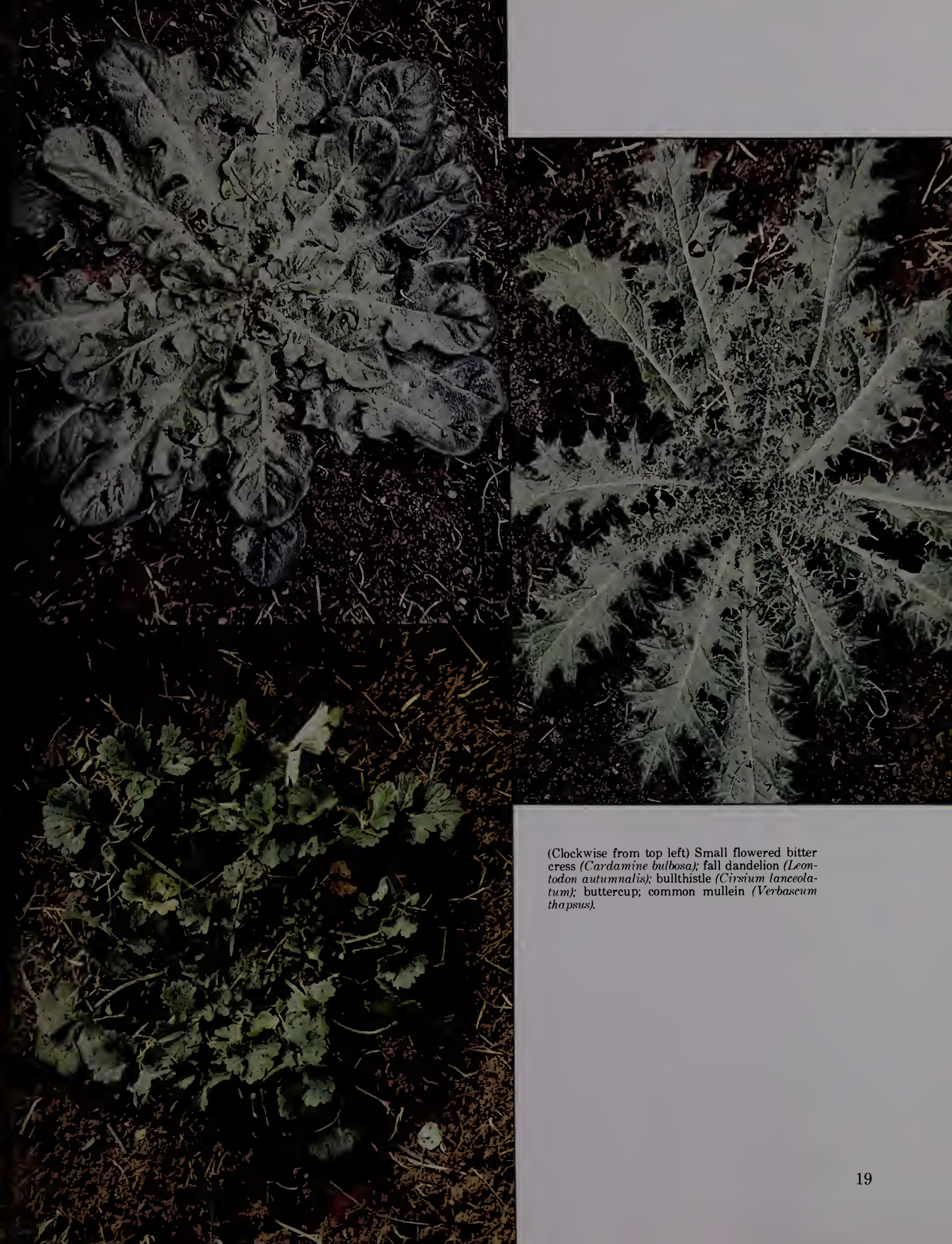
Of all thistles, the bullthistle is the spiniest and it is generally a roadside plant. Should a stray seed wind up in your yard and you are faced with this formidably armored rosette, wear sturdy leather gloves when you dig it out. Fortunately it has shallow roots and it gives a procrastinator a full year before it grows to blooming size.

Dock rivals the dandelion with its tap root and it will not even come out when the ground is saturated. Nor does dock have lovely flowers to redeem it. They are greenish brown and insignificant. But they do grow on strong, businesslike stalks which can daunt even the finest of line trimmers. Even the knowledge that it is a member of the buckwheat family does not help its image very much, for dock itself is not edible.

Touching mullein is a sensuous delight for its leaves are a soft, deep velvet. The Indians used them as moccasin liners for warmth during the winter and mullein tea eased colds and sniffles. The Romans used the entire plant as torches. In fact, there were so many uses for mullein that it seems almost inappropriate to call it a weed. It is worth transplanting to the back of your flower bed since it is not invasive. The yellow flower clusters on the sometimes five-foot-high stems are attractive.

Unasked, unplanted and unwanted usually also means unappreciated. Those are a lot of "uns" but perhaps we can eliminate the last one, at least temporarily during the winter. □





(Clockwise from top left) Small flowered bitter cress *(Cardamine bulbosa);* fall dandelion *(Leontodon autumnalis);* bullthistle *(Cirsium lanceolatum);* buttercup; common mullein *(Verbascum thapsus).*

# A Punishing Pursuit

## The ruffed grouse—and its "rough" habitat—present a unique challenge.

by Bill Anderson

Ask some of your hunting cronies which of Virginia's gamebirds they consider the most sporting to hunt, and I'm sure you will get some interesting answers.

To some, nothing will compare to the unexpected rise of a buzzing covey of quail. Others will tell you that their number-one thrill is to swing a shotgun on a cackling rooster ringneck. A few will point out (and rightly so) that the wild turkey has to be considered because of its size and wariness.

Some of your friends may opt for waterfowl—particularly wary black ducks or intelligent Canadas—or a couple may say that woodcock offer a sporting challenge.

And a few (but I'll bet it's darn few) will say that for the hunter willing to put forth the necessary effort, willing to weather the many disappointments, the greatest gamebird of them all is the ruffed grouse.

As for my choice? Well. . I tend to vacillate, depending on the season. If you happened to ask me my opinion in April or May, when the dogwoods are in bloom and the world seems to be awakening after a winter's sleep, I would probably tell you about all the things wild turkeys and turkey hunting have going for them. But if you asked me in January, after the deer season is over, and the woods are almost devoid of hunters, I'm sure I would tell you that there is nothing quite like grouse hunting.

Grouse hunting is not for everyone. To hunt Mr. Ruff requires that the hunter be in reasonably good physical condition, and that he have little regard for his clothes and the exposed portions of his anatomy. Grouse tend to inhabit some of the thickest impenetrable jungles of vines and briers. The terrain where grouse are found is usually steep and rough with little easy walking. I once read a grouse hunting story in which the author stated, "Guns don't kill grouse, legs do!" This was a man who had obviously come to grips with the reality of grouse hunting.

Why then, do some of us choose to punish ourselves in this pursuit of grouse? Well, speaking for myself, it comes down to two factors: (1) the challenge and (2) the solitude or lack of competition. If there is a tougher task in all the outdoors than hitting the brown blur of a flushing grouse as he zig-zags through the brush, I certainly don't know what it is. To further enhance this challenge, even in the best of times, in the best of coverts, grouse can seldom be called plentiful. Many, many trips are going to result in misses or no shots offered.

With all these things going for it, it's easy to see why most grouse cover is seldom crowded with hunters. Sure, there are places where you will run into other hunters, but I'll bet these are well-known spots that offer relatively easy going. If you are willing to do some scouting, you can find plenty of coverts, even on public lands, that seldom see hunters looking specifically for grouse. There is no way for me to prove this, but I would bet that in Maryland and West Virginia, where I do most of my hunting, the majority of grouse killed are the result of chance encounters with hunters looking for squirrels or rabbits.

For the hunter interested in beginning his or her grouse career, the first point of interest is learning where to look for grouse. Fortunately, this is not all that difficult. The key word that has been printed in virtually every outdoor publication for many years now is *edge*. For those uneducated in this term or unsure of its meaning, edge is simply growths of vines, briers, brush and small trees found along the edges of mature forests. Edge can also be cleared areas that have been allowed to grow unchecked and are reverting to their natural state.

Particular favorites of mine (and of grouse, too) are abandoned farms. These farms will sometimes have orchards with a few trees still bearing fruit. There is nothing more appealing to grouse than apples on a winter afternoon.

Another favorite grouse spot is a stone fence bordering an abandoned farm field. These old fences are usually covered with blackberry and honeysuckle vines, and if you are lucky, there may even be a few wild grapes. Wild grapes are another grouse favorite, ranking right up there with apples.

Do not be misled into thinking that the only place to find suitable grouse cover is at the outer edge of a tract of woods. Many times, suitable edge can be found deep within a large stretch of forest. Such things as clear-cut timber operations, the clearing of rights-of-way, and even forest fires can open large areas, and once these areas are given a few years of sunlight, the resulting

Archie Johnson

growth will be enough to make any grouse swoon in ecstacy.

The search for grouse coverts is a never-ending challenge for the dedicated hunter. As each cover develops, it will continue to hold birds only as long as the larger trees allow sufficient amounts of sunlight to nourish the ground-hugging vegetation. After a few years, the overhead foliage will force the grouse to move on and the hunter must follow. Also, for different reasons, coverts that provide plenty of opportunities one season may be barren the next. I have always suspected that this rapid decline in the bird population may be caused by an increase in natural predators such as owls and hawks.

What this boils down to is that pounding thickets that were productive last season may result in lots of good exercise, but few shots offered. Grouse cover is an ever-changing thing, and will only be productive during certain stages of its evolution. The successful hunter knows this and is always searching for new coverts.

Of course, no grouse hunting story would be complete without a pragmatic look at guns for grouse hunters. After much consideration, I have compiled a list of the qualities I would demand, could I have my perfect grouse gun.

1. The perfect grouse gun should be light, superbly balanced and point like your index finger.
2. The gun should feature only the finest American walnut but have a yet-to-be-discovered finish that would allow its doting owner to drag it through the thickest cover without ruining its finish with countless scratches.
3. The gun should be of a sufficiently large gauge to allow it to propel approximately 10 ounces of #8's in a 15-yard-wide pattern at 25 yards. Recoil would, of course, be light.

Of course, if such a cannon did exist we would all quickly condemn it as unsporting and it would be doomed to failure. But still, an interesting idea. Don't you agree?

Careful (and envious) observation of the guns carried by grouse experts has revealed that most prefer doubles over any other action. Gauge seems to be less important than other considerations such as weight, balance and fit, but there do seem to be more 20's than 12's. I suspect this is because of the lighter weight of the 20 gauge. Shot size seems to run strongly in favor of 8's with 7½'s a close second. Grouse aren't particularly hard to kill, just very hard to hit, so the more pellets per shot, the better your chance of connecting.

A while back, I aquired an old shotgun that has since become my favorite grouse gun. It started out as a well-preserved Model 31 Remington pump that had had two inches removed from the barrel and a Poly-Choke installed. Also, sometime in the past, some misfortune had befallen the original stock and the replacement had been hand-whittled from a very select grade of walnut.

Seeing the old piece as sort of a diamond-in-the-rough, I bought it and turned it over to a gunsmith friend to complete the remodeling. He found a beautiful piece of wood to match the stock, and since he is one of those fellows who is quite skillful with his hands, he carved a new forearm and turned the gun into a hand-checkered, oil-finished beauty that fits me better than I ever expected a gun to fit, and that I shoot better than I ever expected to shoot. . .not that my shooting is ever going to send the birds cowering in groundhog holes.

One of my earliest memories of hunting involves the first time I heard a grouse drumming, quite a few years back, during an October squirrel hunt. The "thump. . . thump. . .thump-thump-thump-thummppp. . ." emanating close-by gave me a severe start—making me wonder what kind of primitive engine someone was trying to start.

I can still remember my embarrassment, and boyhood wonder, when the farmer who owned the land explained to me that it was a grouse creating this strange noise. To this day, it still remains for me one of nature's greatest sounds, ranking with the call of migrating geese or the early-morning gargle of a love-starved gobbler.

It is with a sense of humility that one should approach grouse hunting. This is necessary because grouse are humiliating birds. To score cleanly is cause for rejoicing in reaching the unreachable, and to miss is to console oneself in experiencing the expected. It is truly one sport where the effort is all that really counts. □

# The First Year: Virginia's Non-Game Program

VCGIF photo

A special birthday came and went last June. On June 30, 1983, the Non-Game and Endangered Species Program was a year old. Although those wildlife species might not have known it, it was a red-letter day for them, because it marked a year of "great expectations" realized. What has the program accomplished so far with the donations of concerned citizens?

Naturally, public outreach efforts are those which are most likely to affect you directly, and three of those are featured in this month's issue of *Virginia Wildlife:* "Wildlife in the Classroom," (page 6), "Watchable Wildlife" (page 9) and "Home Grown Habitat" (page 13).

Another public outreach project which has been widely acclaimed is "Virginia's Flying Colors," a film about the many bird species found in the Old Dominion. In fact, the film won a third-place award in a wildlife film competition sponsored by the Association for Conservation Information, a group of information and education professionals in the wildlife and conservation field, representing the United States and Canada. The film is available from the Game Commission's film library.

Here are brief outlines of some of the other projects which have received funding from the Non-Game Program.

## Endangered Species

### The Delmarva Fox Squirrel

Twenty-four endangered Delmarva fox squirrels were transferred from their Chincoteague National Wildlife Refuge home to the Nature Conservancy's Brownsville Plantation near Nasawaddox. Previously, only one viable population of this endangered species existed in Virginia at the Chincoteague NWR on the Eastern Shore. Before the advent of the Non-Game program, an effort began to restore this animal to parts of its former range. Thirteen squirrels were transplanted in June and September 1982. One animal was lost in this transplant operation. Eleven additional squirrels were trapped and relocated. A fifty-fifty sex ratio was maintained. A second reproducing colony of the beautiful silvery-white squirrels should greatly increase their chances of survival.

### The Bald Eagle

In February and March 1983, researchers located 54 active bald eagle nests in Virginia and monitored them through the nesting season. Of these, eagles produced and incubated eggs in 52 nests. A total of 54 young were hatched and 52 of them survived to fledging stage.

Weekly censuses of large summering populations of eagles are being continued on the James and Potomac Rivers under contract with Dr. Mitchell Byrd of the College of William and Mary. During the week of June 20, 48 birds were found on the James and 20 on the Potomac. Although tags indicate some of the birds are of southern origin, the point of origin of others has not been determined. To further this phase of the research, five radio transmitters have been ordered, and will be placed on the eagles.

Next year will see the continuation of breeding, winter, and summer eagle censuses. Evaluation of hatching and fledging success, and post-nesting dispersal of young eagles will be continued. The summer dispersal of five eagles will be monitored with telemetry.

### The Virginia Peregrine Falcon

In 1982 and 1983, adult peregrine falcons released earlier on Virginia's Eastern Shore returned to nest where they were reared (hacked). The first brood of three was the first born in Virginia in over 20 years. Four more were hatched by the same pair in the spring of 1983. Additional single adults have appeared at a number of other sites over the past two years.

The primary emphasis of this program, also performed under contract with Dr. Byrd, is the reintroduction of peregrine falcons to Virginia. In the summer of 1982, nineteen young falcons from Cornell University were successfully hacked at three sites on the Eastern Shore. In the summer of 1983, 18 young were successfully hacked. Although all of these birds are now flying, none have dispersed from the hack site.

Recent efforts to restore peregrines have been confined to coastal areas. An analysis of all the physical attributes of historic cliff nesting sites in western Virginia was completed to serve as a basis for possible future reintroduction efforts in the mountains.

In 1984, reintroduction of falcons will continue to be the main thrust of this program.

## *The Red-Cockaded Woodpecker*

Researchers have been able to locate fewer than 30 of the endangered red-cockaded woodpeckers in southeastern Virginia. The bird which only nests in diseased pine stands is declining in Virginia, the northern edge of its range.

In 1982, seven active nests were found, of which six successfully produced young. Nine young were produced. These young birds, plus 22 known adults constituted the total population found in Virginia.

This work, performed under contract by Dr. Byrd, involves locating colonies of birds and negotiating with landowners to protect the fragile mature pine habitat required to sustain this species. This work is continuing.

## *The Long-Eared Bat*

In 1983, 17 caves in southwest Virginia were checked for wintering colonies of long-eared and Indiana bats. No long-eared bats were found. Indiana bats were found in two caves. A cave in Bath County had a larger colony (29) in January than was found the previous year. At a Wise County cave, mist nets were used with poor results, catching only one bat. A maternity colony of the long-eared bats is being studied in a cave in Tazewell County. The studies of bats, including endangered Virginia Big-eared bats, are headed by Dr. Virginia Tipton of Radford University.

## *Endangered Mussels*

Certain fish act as intermediary hosts during the reproductive cycle of mussels. In one of two studies, Dr. Richard Neves of VPI & SU infected certain known host fish with the larvae (glochidia) of three non-endangered mussels and transplanted them to specific test sites in the Clinch and Holston Rivers. These larvae, residing in the gills of the host fish, will eventually drop off and, we hope, start a new mussel population.

A second study is designed to evaluate the habitats preferred by juvenile mussels.

Remnant populations of nine endangered species of mussels currently survive in portions of the Holston, Powell, and Clinch Rivers in Southwest Virginia.

## *Sea Turtles*

A transmitter is being developed which will beam many vital signs of sea turtles wearing them to a satellite which will return the information to researchers on the ground. Transmitters currently in use are capable of assisting in locating turtles, but the one being designed will have the additional capabilities of transmitting the animal's temperature, rate of flipper beats, respiration rate, and other vital information, all of which can be monitored via satellite. Several turtles, including a rare Ridley, have been fitted with conventional transmitters and their movements are being closely monitored. The new transmitter should be ready for testing in the fall and for use on a wild turtle next spring.

The Chesapeake Bay has been discovered to be a very important summering area for juvenile loggerhead turtles and possibly for the endangered Ridley turtle. VIMS studies, under Dr. Jack Musick and doctoral candidate Richard Byles, are designed to discover the answers to many questions about these turtles.

many questions about these turtles.

# *Inventory & Investigation*

## *Chesapeake Ospreys*

The Chesapeake Bay's burgeoning osprey population is providing the means of restoring these interesting birds to parts of their former range where they have disappeared.

In 1982, 10 young were flown to Pennsylvania and another 10 to Tennessee for hacking. The operation was repeated in 1983. Since 1976, Dr. Byrd has banded over 3,000 nesting ospreys in Virginia. Many of these are now in the breeding population. In 1983, a program to trap and identify banded breeding adults resulted in the capture of 46 adults, of which 36 were banded. Data acquired in this trapping program will provide considerable information on population age, structure and dispersal distances. In 1984, aerial and ground surveys of active osprey nests will continue to determine the size of the breeding population. Further, Virginia will continue to support the national effort to reintroduce ospreys to their native habitats by providing young birds for restocking. Constant surveillance of this species is considered essential in monitoring for other threats to raptors and also as an indicator of the health of our major estuaries.

## *Shorebirds*

A great variety of water birds nest on coastal and Chesapeake Bay islands, in salt marshes and along Bay tributaries. Surveys of this myriad of bird life have just begun.

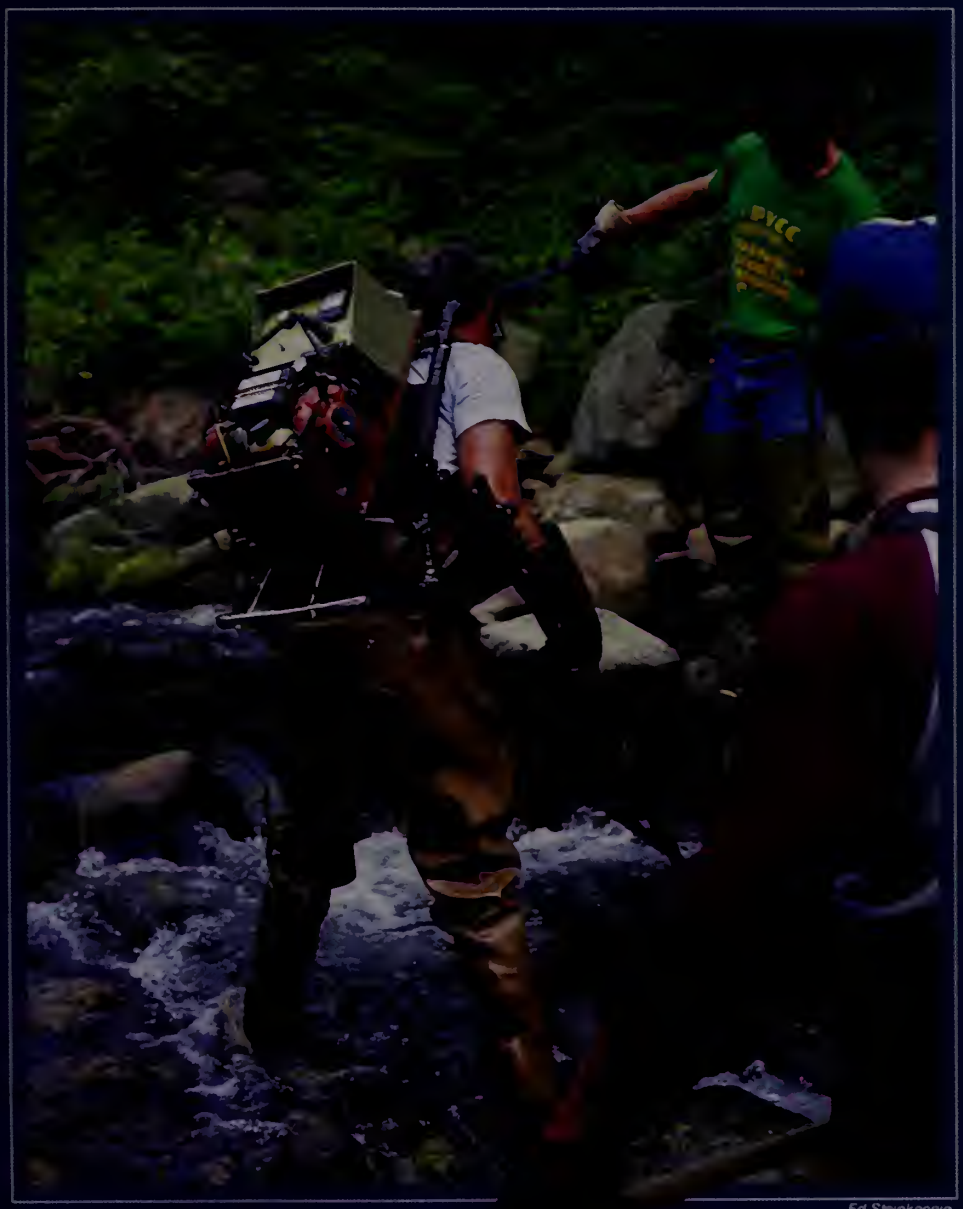
Approximately 30 inland colonies of great blue heron were located in 1983, totalling nearly 4,000 breeding pairs. These surveys were conducted from the air, with all findings and counts verified by further investigation on the land or water.

Data gathered by these surveys are presently being tabulated, but several trends are indicated. The numbers of individuals of the species surveyed appear to have remained relatively constant throughout the two-year period. Several species have shown population shifts, moving from one barrier island to another. Cattle egret populations have largely moved into the Chincoteague area. Little blue heron populations, a species of special concern, appear to have declined.

Nesting success was studied on selected Eastern Shore islands in order to determine reproductive success of colonial species. Nesting success appeared to vary from site to site according to levels of human disturbance, predation, weather, and other factors.

All of these programs together represent a good start, but it is only a beginning. We'll need your continual support to keep the Non-Game Program and projects such as these going. If you'd like to contribute to the program, simply check Line 20A (or 10A on the "short form") of your Virginia State Income Tax form and indicate the amount of your tax refund which you wish to go to the program. Or, send a check (made payable to "Treasurer of Virginia") directly to the Commission of Game and Inland Fisheries, Non-Game Program, P.O. Box 11104, Richmond, Virginia 23230-1104. All contributions—whether "check-off" or check—are tax-deductible.

And a big "thank you" to those of you who made this special birthday possible! □



Ed Steinkoenig

# Navigating

## Virginia's Freshwater Resources

The fisheries biologists of the Commission of Game and Inland Fisheries use a variety of tools and methods to insure that Virginia's lakes and streams support healthy fish populations.

*Biologist prepares to check block net*

*Coursey Springs Trout Rearing Station*

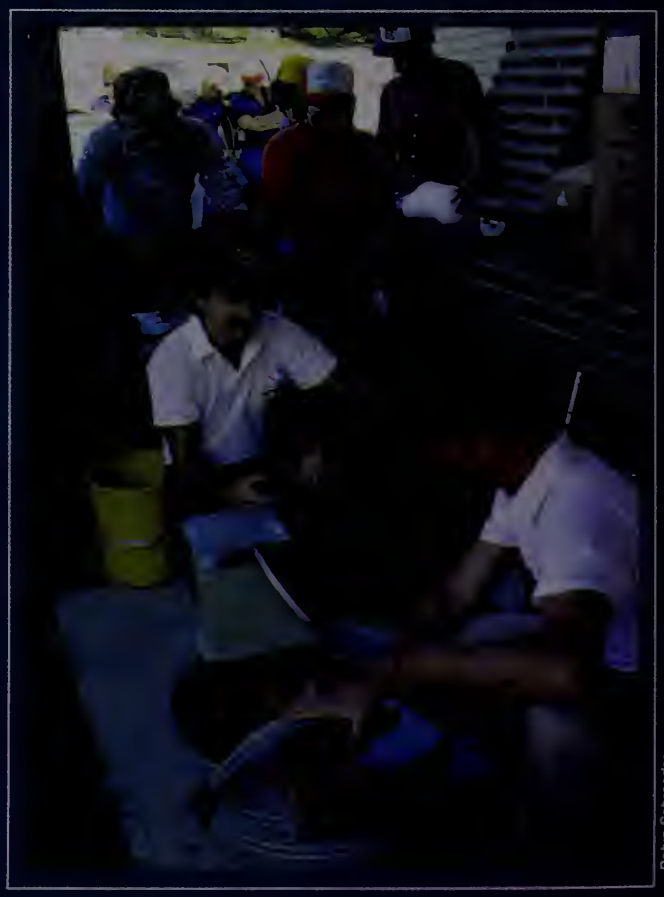
Mel White

Sarah Bertenstein

The goal of freshwater fisheries management in Virginia seems simple: to produce the "best" fishing in each of the state's lakes, streams and reservoirs. But what is the definition of "best"? For some, it might mean the greatest number of fish; to others, the biggest.

Likewise, the methods for managing fish populations in different waters are varied. Anglers may think of fish stocking as the sum total of the fisheries management effort. But as these photographs show, the staff of the Commission of Game and Inland Fisheries' fish division uses many different tools and techniques to "manage" fish populations, according to the species, the location and the goal.

Fisheries biologists are in the business of collecting data,



Robin Schroeder

*Biologists at bass tournament*

Spike Knuth

*Trap netting, Lake Orange*

Sarah Bartenstein

*Clipping fish for identification*

Leon Kesteloo

*A balanced pond population*

*Sorting fish*

Sarah Bartenstein

and this means fish sampling.

A trap net traps the fish which swims into it through a "V" in the long, tubular net, then cannot find its way out. Once the data are collected on the fish, they are released. This method is used to trap fish which move along the shoreline such as trout and sunfish.

If the species under study is the striped bass, biologists would probably use a gill net. This type of net entangles the fish.

Electrofishing uses electric current to stun fish which are quickly netted and placed in a live well. On a lake or reservoir, a specially-equipped boat is used; on a stream, a biologist walks through the water using a backpack shocker such as the one pictured on page 25. Either way once the fish are collected and the pertinent information recorded, they are returned to the water unharmed. This method is used primarily to collect fish commonly found in shallow water such as bass and bluegills.

A rotenone sample allows biologists to determine the pounds, numbers and types of fish in an area. It involves several steps: first, electroshocking to obtain a "control group" of fish which are marked by clipping a fin; then, biologists set up a block net across the opening of the cove they wish to sample; they don diving gear and check the lake bottom to insure that the net is properly in place; they distribute the rotenone throughout the cove: when the fish are brought to the surface, they are netted, then sorted according to species, size and weight.

Water quality analysis also helps biologists determine the best way to manage a particular body of water.

*Gill netting*

Spike Knuth

*Distributing rotenone*

*Water quality analysis*

Sarah Bartenstein

*Trout eggs at Marion Hatchery*

Mitchell Norman

Mel White

The best-known fisheries management tool is stocking. Of course, a great deal of work goes on at the Commission's hatcheries and rearing stations before any stocking takes place. These facilities can be found all over the state; some are coldwater hatcheries for trout, others are warmwater hatcheries for bass and muskies.

Members of the fish division, like those of other divisions of the Commission, have plenty of public relations tasks, as well; they visit schools, fairs and clubs to talk about fish and fishing; they also attend such events as bass tournaments, where they weigh and measure the fish and take scale samples.

The "best" fishing may be in the eye of the beholder, but Virginia's fisheries personnel seem to be providing it for her citizens. □

# January Journal

edited by Mel White

## Alabama Artist Wins Duck Stamp Contest

Alabama artist William C. Morris was the winner in the annual Duck Stamp Contest with his rendition of "Wigeons On Water." Morris' entry, which was one of 1,582 in the 1983 competition, will grace the 1984-85 Federal Migratory Bird Hunting and Conservation Stamp. It was the first time that the 38-year-old artist had entered the contest.

This marks the 50th year of the competition, and Morris' design will be reproduced on next year's "golden anniversary" Migratory Bird Hunting and Conservation Stamp. The stamp must be purchased by all waterfowl hunters 16 years of age and older in the United States. Nearly two million of the colorful stamps are sold each year to hunters, stamp collectors, and a growing number of non-hunters who want to contribute to the nation's wildlife conservation effort.

The design for each year's "duck stamp" is selected through an art contest—the federal government's only regularly sponsored art competition. Revenue from the sale of the duck stamp is used to buy vital wetland habitat under a program administered by the U.S. Fish and Wildlife Service since 1934.

Morris' achievement follows his win in the 1984 Alabama State waterfowl stamp competition held earlier this year.

His design depicts male and female American wigeons on a still pool of deep blue water. The wigeon is a moderately large species of duck, measuring up to 21 inches and weighing about one and three-quarter pounds. It has a white underside with a distinctive white crown in the drake that gives the species its common name—the baldpate. Wigeons are nervous birds, quick to take flight in fast, irregular flight patterns and bunched flocks that have been compared to those of pigeons.

A Mobile native, Morris has had no formal art training except for a few weeks of in-studio instruction. "They wanted to make me something different than what I am and tell me what to paint. I wanted to paint wildlife, so I left," he said. He began painting various sports scenes.

Morris is a graduate of the Mobile public schools. He attended Faulkner State College in Bay Minette, Alabama for three years, where he studied drafting and design. He now works as a sales engineer for Brownell Electro, a manufacturer of electronic instruments for industry, in Mobile. He is married and the father of two sons.

Robert Bealle of Waldorf, Maryland, took second place in this year's judging with an oil-on-masonite rendition of redhead ducks, and Neal R. Anderson of Lincoln, Nebraska won third place with a gouache painting of a single redhead.

Judges for this year's contest were Frank G. Harris, III, an independent geologist and national director of the Waterfowl Habitat Owners Alliance, of Shreveport, Louisiana; George M. Barley, Jr., a real estate consultant and member of the Florida Environmental Regulation Commission, of Orlando, Florida; Douglas E. Miller, president of Wildlife World, Inc., an art publishing company, and owner of the largest collection of wildlife art in the United States, of Monument, Colorado; Patrick D. Nolan, president of a real estate consulting company and a cattle rancher, of Scottsdale, Arizona; and C.D. Besadny, secretary of the Wisconsin Department of Natural Resources and president of the International Association of Fish and Wildlife Agencies, of Madison, Wisconsin. □

# —January Journal—

## Field Notes

### The Best Laid Plans

Virginia's winters often bring biting cold and rainy, blustery days. Most "normal" people seek the comfort of a den with a crackling fire or some other warm and cozy hiding place. Still, some folks dress for the occasion and head out across the bays, lakes and rivers in hopes of bagging waterfowl or catching fish. These people actually enjoy what nature dishes out on these tough, raw days. They also face hazards associated with cold, unpredictable weather and the lack of fellow boaters to render assistance in times of distress.

The careless or unfortunate will find themselves in a life-threatening situation. Survival often depends upon two elements, preparation and good luck. Luck is something we have no control over, so the key is preparation. Precautionary measures should begin with an understanding of what dangers you face. Drowning and hypothermia are certainly the most formidable. Make all preparations with these hazards in mind.

Prepare for the worst. A boating accident such as a collision, a fire, capsizing or swamping could be disastrous. To avoid colliding with another boat or other obstacle, always keep a very good lookout, research and commit to memory hazards and obstructions shown on maps and charts, and finally, reduce your speed, especially at night.

Fire prevention includes proper ventilation and engine, electrical and fuel system maintainance. Proper storage of combustible materials and ready accessibility of a fire extinguisher are also important precautions. Several sizes of fire extinguishers are available—do not be afraid to get one that exceeds minimum requirements.

To avoid capsizing or swamping, you should consider the size of your boat and its stability in relation to the size of the body of water you will be using. Consider weather reports and learn nature's signals for oncoming storms. If the weather forecast predicts high winds or unstable conditions, you should postpone your excursion.

Archie Johnson

You should do everything in your power to avoid being forced into the water at this time of year. However, since the "the best laid schemes o' mice and men" are often for naught, prepare for this dismal possibility. A personal flotation device (PFD) in good condition will prevent your drowning but will not protect you from the cold. There are flotation suits and jackets that provide this type of protection, but they are expensive. In making a decision about the type of equipment necessary, consider where you are going. An upper James River duck hunter may not need a flotation suit in order to survive, but he had better have a dry bag with clothes, fire-making supplies and some form of shelter to protect him from the rain. One going to the Chesapeake Bay for recreation should invest in the flotation coat or suit. Take along companions in another boat—you will have your rescuers at hand.

If you are involved in an accident or have an engine failure, your chances for survival can also be enhanced by something that you should have left behind. Make a float or trip plan describing your destination, expected time of return, etc. and leave it with someone who is responsible and will report your absence. The report should be made to your local Virginia game warden, through the Richmond office at (804) 257-1000 or through your local sheriff's office. □

by Lt. Herb Foster

# Personalities

## Charles P. Gilchrist, Jr.

Somewhere along the way Charlie Gilchrist acquired the affectionately bestowed nickname "Muskrat," in view of his many, many hours of biologicial work with shore birds and waterfowl in the marshes and wetlands of the Old Dominion. The name stuck with him and Charlie is recognized that way throughout the United States and Canada, and as being a highly professional and respected waterfowl biologist.

His father was a career Marine Corps officer stationed at Quantico when Charlie was born at a hospital in Richmond. About a year and a half later, the family moved from their Stafford County home near the Marine Corps Base to Haiti where his father was assigned.

During the two-year-long assignment to Haiti, the senior Gilchrist's health required that he take medical retirement and the family returned to the United States.

This began a period of frequent moves, seeing the family live in Fort Myer, Florida; Georgetown, South Carolina; and finally to Richmond County in Virginia's Northern Neck.

Charlie attended Episcopal High School in Alexandria and upon graduation entered the Citadel in Charleston, South Carolina. This was during WW II, and at the Citadel, he enlisted in the United States Marine Corps and was sent to Duke University to participate in the V-12 Officer Training Program.

Charlie served in the South Pacific and was discharged as a First Lieutenant in 1946. He then returned to the Citadel where he received a B.S. in political science. Next he enrolled at Virginia Tech where he received a B.S. in biology and later (1949) an M.S. in wildlife conservation.

Employment with the Virginia Commission of Game and Inland

Fisheries followed and his first assignment was as a district biologist responsible for the area from Gloucester to Arlington. He then became a state waterfowl biologist doing wetlands work throughout the Commonwealth. This included development and management of such Game Commission-owned wetland areas as Saxis Marsh, Hog Island, Mockhorn Island and others.

Later he was promoted to regional biologist supervisor for the game division's region one which encompasses the area from King George to Mecklenburg County and the Eastern Shore. The region is divided into two districts, one under the supervision of biologist Fairfax Settle, and the other is supervised by biologist Don Schwab. This includes four fee-hunting waterfowl areas: Pocahontas, Trojan, Barbours Hill and Hog Island. Charlie and the two district biologists are also responsible for some non-fee hunting areas which are open to the public. They include Mockhorn Island, Saxis Island Marsh, Chickahominy, Game Farm Marsh, Elm Hill and Ragged Island. Ragged Island is not only a hunting area but also the site of the Commission's first Watchable Wildlife Project (see page 9). Another area, Lands End, is not open to hunting.

On December 30, 1983, "Muskrat" retired from service with the Virginia Game Commission after 33½ years. Looking back, Charlie has "thoroughly enjoyed working for the Commission and with both the staff and the public. Being outdoors and working with wildlife has really been therapeutic and richly rewarding. I have had many wonderful opportunities during my employment, opportunities that would not otherwise have been possible. An example would be the three times that I went to Northern Labrador to band waterfowl. Another would be my participation in the Atlantic Waterfowl Council since its inception and prior to that, involvement in the Black Duck Committee which was actually the parent organization of the present Flyway Council."

Charlie is also very complimentary of his area managers with whom he has particularly enjoyed working to develop and improve the various areas for which they have responsibility.

In retirement, he is going to work on his seven-acre place on the Rappahannock River, fish, garden, enjoy his three grandchildren and whittle. That last activity is really one of his major hobbies, for over the years he has enjoyed whittling shore birds out of walnut cypress knees and bass wood. In the accompanying photo, "Muskrat" is shown with some of his handiwork. He and his wife, the former Frances Jenkins of Charleston, South Carolina, make their home in a beautiful location overlooking the Rappahannock River in Tappahannock. □

by Francis N. Satterlee

# January Journal

## Growing Up Outdoors

### Home Sweet Home

When it's cold outside, or raining or snowing, we're extra glad that we have houses. But if people have houses, what do animals have? See if you can match the animals listed below with their "homes." The answers are on page 33.

| | |
|---|---|
| robin | burrow |
| raccoon | warren |
| rabbit | lodge |
| bear | den tree |
| groundhog | nest |
| sea otter | cave |
| mountain lion | den |
| beaver | kelp bed (seaweed) |

*Bonus:* Which of these animals live in Virginia?

by Sarah Bartenstein

Leonard Lee Rue

## Books

### Audubon Offers Bird Feeding Book

Americans spend an estimated $90 million a year on food for wild birds, but it's a safe guess that neither the people nor the birds are getting the best use out of all those back yard feeders. The National Audubon Society has published a new booklet to help remedy the situation.

A bird-lover who, for example, puts out a feeder filled with even the finest birdseed is never going to attract a woodpecker, hummingbird or warbler—those birds don't eat seeds. And the feeder may also fail to attract many of the seed-eaters, because each species has its special food preference and eating habits. To attract warblers, the Audubon booklet suggests running water: anything from a homemade device that uses a milk container with a pin-hole through the bottom, to a fountain in the garden. For woodpeckers, try suet, says the booklet, and for nectar-sipping hummingbirds, a special feeder. Some species can be attracted by fruit, mealworms and even table scraps.

There are tips on how to plant your garden or back yard to offer additional food, as well as cover and shelter for birds. "Lazy landscapes" are said to be best for birds, though they might not impress your more fastidious neighbors.

"Lawns are a monoculture and as such represent a sterile environment," says Audubon."Homeowners with large lots can diversify by limiting the traditional, closely cropped carpet of grass to the immediate vicinity of their house while allowing the rest of the yard to go to seed and develop into a meadow."

The natural way is also the easiest. "Mowed in March every one, two, five or even ten years and periodically thinned of woody growth, these plots of herbaceous bushes and native grasses are intensively productive for both plants and animals—whether several acres in size or a mini-meadow only a few feet in diameter."

Can birds depend too much on a feeder—and then be left in the lurch if the feeder is empty when they need it most?

"Local bird populations are not dependent on any single food source," says Audubon, but it's still wise to be aware of the weather and food conditions that may limit natural food supplies in your area.

"During a heavy ice or snowstorm when natural foods are temporarily inaccessible, a reliable supplementary food source could be a boost to the survival of local populations," the booklet notes. "A common mistake of many novice back yard birders is to discontinue suppplementary feeding too early in the spring, when there is still a shortage of ripened foods. On the other hand, if you live in a heavily-planted community and if other people nearby maintain feeding stations, there's probably no harm in taking a midwinter vacation."

The booklet stresses that a bird-feeding station offers far more than just a chance to see a chickadee fly off with a sunflower seed. It provides an unending field lesson in natural history. Readers are urged to study the feeding habits of the various species that come to the area.

"In time you'll be able to forecast rain or shine based on the activities of the birds in your yard," Audubon explains. "You'll be able to pinpoint the month by using your feeder as a calendar. And you may even recognize differences among individual members of the same species."

The 24-page booklet, *Banquets For*

*Birds*, is available at cost ($1.60 including postage) from Information Services, National Audubon Society, 950 Third Avenue, New York, NY 10022.—*MMW*

# Letters

This letter is in reference to the picture that accompanied Gerald Almy's article, "And Where Was My Bow?" (November 1983 *Virginia Wildlife*). The picture is of a hunter with a gun, not a bow. After 15 years of hunting deer with a bow, I think I understand why Mr. Almy chose this picture. In fact, he stated the reason in the article. Lack of perserverance will be the reason a lot of hunters will be in the woods with a gun this fall.

*Wayne Mills*
Herndon

*You were very kind to assume that we—or Gerald Almy—chose the lead photograph for his story, "And Where Was My Bow?" with such a clever motive.*

*Actually, a couple of photos were transposed, and we had intended to run one of a hunter in a tree stand with a bow, not a gun. To make matters worse, we did not even catch our mistake in the proofing stage!*

*We've received several letters about this, but yours is undoubtedly the nicest! Thanks for writing.*—Managing Editor

I have subscribed to your magazine for over five years, but at no other time have I appreciated it more than now. I am writing this letter inside a drafty wooden construction called a "hootch," the kerosene stove is burning hot, and my instant coffee is starting to boil.

I am in South Korea, at Camp Mu-Chuck, USMC reading your November '83 issue, that my wife sent me.

The pictures and articles could easily make me homesick but knowing I'll be returning to Virginia and her beauty and wildlife keeps my hopes high. Keep up the good work, and protect Virginia's wildlife.

*Sgt. David Whiteside, USMC*
1st Bn, 2nd Marines
Lexington

*Each of us has a job to do. Your letter makes me proud of the job that my colleagues and I do, proud that our work affects others in a positive way. You, even moreso, should be proud of the job that you are doing for all of us. Please know that we deeply appreciate it.*

*Thank you for your heartwarming letter.*—Managing Editor

# About the Authors

**Bruce Ingram** of Catawba previously wrote on pickerel for *Virginia Wildlife:* that article was published in April 1982. Freelance photographer **Paul Calhoun** of Roanoke collaborated with Ingram on this month's feature. **Susan Gilley** is with the Game Commission's education division; Project WILD is her major responsibility. Wildlife biologist **Karen Terwilliger** is on the staff of the Commission's game division; besides her work on Ragged Island, she has been involved with other Non-Game Program projects such as colonial nesting bird studies. Richmonders **Grete** and **Hans Dollitz** last wrote for *Virginia Wildlife* in the May 1980 issue, in a feature on ladyslippers. **Bill Anderson** of Clear Spring, Maryland is an avid hunter: grouse, turkey, and bowhunting are among his interests. □

*Answers to "Home Sweet Home":*
robin—nest; raccoon—den tree; rabbit—warren; bear—den; groundhog—burrow; sea otter—kelp bed; mountain lion—cave; beaver—lodge.
*Bonus:* robin, raccoon, rabbit, bear, groundhog, beaver.

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# Bird of the Month

## The Ruddy Duck

Ever heard of the expression "strange duck"? While it is often used to refer to the human species, it might be aptly applied to the ruddy duck. Although it isn't literally "strange," it is unusual among waterfowl in several ways. It is found exclusively in North America. The drake has two distinct plumages for summer and winter. Although it is one of the smallest of our ducks, the female lays eggs larger in size than ducks three times her size lay. The drake ruddy stays to assist in rearing the brood, while males of other species fly off to molt.

Because of its tail which the drake holds erect and fanned out, it has acquired such names as spike-tail, spine-tail, bristle-tail and stifftail. In fact, the first word in its scientific name, *Oxyura jamacensis*, means "sharptail."

The drake has a very colorful breeding plumage, displaying a black crown and nape, white cheeks and sky blue bill. Its neck, chest and back are chestnut brown. Its lower breast and belly are silvery-white, while its stiff, narrow tail feathers are dull black or dark gray.

Beginning in September, the ruddy undergoes a complete change of "dress." Its crown and nape become blackish-brown. While the whitish cheek is retained, the neck becomes whitish and the bill a dusky blue-gray. Its back turns dark brown, faintly barred, while its chest and sides become brownish-gray, barred with darker grays and often stained with rust or dull yellow. The silvery-white belly remains. The hen's plumage is similar to that of the winter drake, except that she has a dark, slanting cheek stripe.

The ruddy duck's courtship display is probably one of the most unusual in the waterfowl world. It consists of much neck stretching, bill-slapping and splashing. The proud little ruddy drake then inflates the air sacs in his neck—which no other ducks have—and with neck and chest puffed up, utters a series of "cluckings" and "churrings" while his eyes seem to glow.

If the hen is impressed, she'll open her bill and stretch her head out on the surface. Woe be unto any rival drake that tries to cut in. The ensuing battle may take place above and below water until the intruder is routed.

The main breeding range of the ruddy is the prairies of Canada and North Central United States, but it is commonly found nesting from coast to coast in the northern tier of the States and Canada. They nest in thick growths of bullrushes, cattails or reeds in marsh sloughs, usually over water. It is anchored to growing vegetation above water level and always matches the surrounding environment. The bulky, basket-like structure of old vegetation is constructed with sloping sides, enabling the hen to quietly slip down in the water if threatened. Often they'll appropriate and refurbish old nests of other ducks and coots.

Despite her small size—only a pound or so—the little ruddy hen lays whopping big eggs! A clutch of 14 eggs will weigh about three pounds. An average clutch is six to ten eggs, but as many as 20 have been found in one nest. The rough, thick-shelled eggs are creamy white. While the hen incubates her over-sized eggs, the drake remains close by. Once hatching occurs, the drake escorts the hen and her brood through calm marsh sloughs. The young are good-sized to begin with and are able to dive for food almost immediately. When they are half-grown, they leave the parent birds and strike off on their own. In more southerly regions of its breeding range, there are indications that it may raise two broods which would make it the only American waterfowl to do so.

The ruddy duck is a vegetarian, with three-quarters of its diet consisting of vegetable matter. When they find rich feeding grounds it is not unusual for them to stuff themselves to the point of rendering them incapable of taking off properly. If you have watched the flight of the ruddy duck, you might wonder that it is able to migrate at all. Its small wings and relatively chunky body require the ruddy to run over the water to become airborne. This often produces some comical sights—especially on rough water when they bounce into or off waves in their attempts to take off. It is somewhat reminiscent of the old Navy man's description of a destroyer—"over one and under two!"

However, what it lacks in flight style it makes up in swimming ability. It can dive quickly—in the blink of an eye—or just sink below the surface with the ability to swim long distances underwater. On land, the ruddy is close to being helpless. Its legs and feet are placed far back on its body, making walking all but impossible.

The spring migration takes place beginning in February as it leaves its wintering grounds along the South Atlantic Coasts and the Gulf. In September and October it returns southward, flying low in big flocks usually following water courses. On larger lakes or bays they can often be seen by the thousands, feeding and resting in windswept flocks.

Hunters on big or open water know the ruddy as a duck that is seldom shot on the wing. They decoy quite easily, but when they come in they usually come in swimming. It can be one of the best tasting of all ducks.

Add to the list that it is especially bad-tempered when captured alive and that the hen is silent, and there is no doubt that the peculiar, distinctive and dapper little ruddy duck is indeed unique. □

by Carl "Spike" Knuth

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